Using Strengths Based Measures to Assess and Manage Risk of Future Negative outcomes

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Indian Health Service Clinical Rounds
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Objectives

1. Discuss common negative outcomes present in AI/AN youth.

2. Describe the rationale for the use of a new risk assessment instrument (START-AV) focused on short-term risk of multiple negative outcomes common among AI/AN youth.

3. Identify the role of dynamic risk and protective factors in the assessment and management of short-term risk of negative outcomes common among AI/AN youth.

4. Evaluate the utility of START-AV with a residential AI/AN youth sample.
Negative Outcomes Common in AI/AN Youth

- Violence
- Gang involvement
- Suicide
- Substance abuse
- Victimization
- Bullying
- Health problems (i.e. obesity & diabetes)

- Reference: American Indian/Alaska Native Behavioral health Briefing Book
- (2011) Indian Health Service.
Risk Assessment

Unstructured Clinical Judgement
- Based on the experience and knowledge of psychiatrist or psychologist, unstructured

Actuarial
- Use of statistically derived risk items to come up with a probability estimate for future negative outcome
- Prediction vs. Risk Management

Structured Professional Judgement (SPJ)
- Use of items derived from empirical literature and combined with clinical judgment to assess likelihood of future negative outcome to inform treatment planning
- Risk Management vs. Prediction
Risk Assessment

Weaknesses Unstructured Clinical Judgement

• Subjective and particularly susceptible to bias
• Research found no better than chance accuracy (sometimes worse)
• Not systematic

Weaknesses of Actuarial

• Nomothetic approach
  • exclude individual factors
• Include almost entirely static risks factors
  • exclude of dynamic risk factors
• Exclude Strengths/protective factors

Weaknesses of SPJ

• Clinical judgment is subjective and can be influence by our biases
Why Include Strengths in Assessments?

• Until recently predominantly risk/weakness focused approach in research and clinical practice

• Comprehensive psychological assessments need to include protective factors/strengths (Rogers, 2000; Snyder et al., 2006; Rashid & Ostermann, 2009; Webster et al., 2009).
  • Biased in terms of overestimating the risk/weakness
  • May lead to stigmatisation
  • Can provide hope for clients
  • Can help facilitate treatment planning

• Individuals can very resilient and all of us have personal resources
What are Strengths/Protective Factors?

de Vries Robbe & Vivienne de Vogel (2010)
What are Strengths/Protective Factors?

- Protective
  - Empathy
  - Social Support

- Risk
  - Poor Coping
  - Substance Abuse
  - Serious Mental Illness
Some Strength Based Measures Child/Adolescent

- *State-Trait-Cheerfulness-Inventory Youth version* (STCI-YV; Ruch, Köhler, & van Thriel, 1996).
  - Child, parent and peer versions
- *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997)
- *Behavioral and Emotional Rating Scale* (BERS; Epstein, 2000)
- *VIA Youth Surveys* (Park, 2004)
- The *Structured Assessment of Violence Risk in Youth* (SAVRY; Borum, & Forth, 2006).
- *Short Term Assessment of Risk and Treatability Adolescent Version* (START:AV; Viljoen et al, in Press)
- Etc…
## START:AV

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Violence</td>
<td>Non-Violent Offending</td>
<td>SPJ guide for dynamic assessment of clients’ short-term risk risks, strengths, and treatability</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>Unauthorized Absence</td>
<td>START:AV was developed for use with:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Male and female adolescents aged 12-18 years.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adolescents in mental health settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adolescents with involvement in the justice system</td>
</tr>
<tr>
<td>Suicide</td>
<td>Non-Suicidal Self Injury</td>
<td>25 items simultaneously rated on separate strength and vulnerability scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Items each rated Low, Moderate, High on both scales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 Risk Estimates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Low, Moderate, High</td>
</tr>
<tr>
<td>Victimization</td>
<td>Health Neglect</td>
<td>Time frame of 2 week to 6 months</td>
</tr>
</tbody>
</table>
1. School and Work
2. Recreation
3. Substance Use
4. Rule Adherence
5. Conduct
6. Self-Care
7. Coping
8. Impulse Control
9. Mental/Cognitive State
10. Emotional State
11. Attitudes
12. Social Skills
13. Relationships – Caregivers/
   a) Relationships – Peers
14. Social Support – Adults
   a) Social Support – Peers
15. Parenting
16. Parental Functioning
17. Peers
18. Material Resources
19. Community
20. External Triggers
21. Insight
22. Plans
23. Medication Adherence ¨ N/A
24. Treatability
25. Case-Specific Item Adults
START: AV Items

- Individual Adolescent
- Relationships & Environment
- Response to Interventions
<table>
<thead>
<tr>
<th>Key Item</th>
<th>Strengths</th>
<th>STRENGTH AND VULNERABILITY ITEMS</th>
<th>Vulnerabilities</th>
<th>Critical Item</th>
<th>ADVERSE AND POSITIVE OUTCOMES</th>
<th>History</th>
<th>Risk Estimate</th>
<th>Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High Mod Low</td>
<td>1. School and Work</td>
<td>Low Mod High</td>
<td></td>
<td>Prior Recent</td>
<td>Low Mod High</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td></td>
<td>High Mod Low</td>
<td>2. Recreation</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>3. Substance Use</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>4. Rule Adherence</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>5. Conduct</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>6. Self-Care</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>7. Coping</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>8. Impulse Control</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>9. Mental/Cognitive State</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>10. Emotional State</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>11. Attitudes</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>12. Social Skills</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Mod Low</td>
<td>13a. Relationships – Caregivers/Adults</td>
<td>Low Mod High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Violence
2. Non-Violent Offense
3. Substance Abuse
4. Unauthorized Absence
5. Suicide
6. NSSI
7. Victimization
8. Health Neglect
9. Case-Specific Adverse
10. Case-Specific Positive Outcome:
Psychometric Properties of the START Adult Version

- **Reliability**
  - Structural
    - Internal consistency: good ($\alpha=.87$)
    - Item homogeneity (MIC>.30)
  - Inter-rater
    - Excellent (ICC=.81-.87)

- **Validity**
  - Construct validity
    - Scores change with security level changes
  - Predictive validity
    - Mostly violence
  - Convergent and divergent validity
    - With HCR-20 (Assessment of risk for violence)
Psychometric Properties of the START:AV

- **Reliability**
  - Structural
    - Internal consistency: good ($\alpha=.89$)
    - Item homogeneity (MIC .26-.37)
  - Inter-ratter
    - Good-Excellent (ICC=.60-.92)

- **Validity**
  - Construct validity
    - None yet
  - Predictive validity
    - Vulnerability scores predict all outcomes
    - Strength scores predict of outcomes
    - Risk estimates predict relevant outcome
  - Convergent and divergent validity
    - With SAVRY and DAP
START:AV Assessment Process

Step 1: Gather Information
- Adolescent
- Caregivers
- Collaterals
- Records

Step 2: Assess Strengths & Vulnerabilities
- Items
- Key/Critical Items
- Signature Risk Signs

Step 3: Rate Adverse & Positive Outcomes
- History
- Risk Estimates
- T.H.R.E.A.T.

Step 4: Integrate & Apply
- Formulation
- Scenarios
- Intervention Plans

Reassess the Adolescent Regularly (e.g., every three months), repeating these steps)
Culture Item

**STRENGTHS:**
- Interested in learning further about his or her culture, or others’ cultures (e.g., interested in receiving culturally-relevant services). Has pride in his or her culture. Has strong, positive role models within his/her culture (e.g., mentors, Elders). Participates in cultural events or ceremonies (e.g., sweat lodges). Values diversity. Feels comfortable moving across cultural groups (e.g., has friends from various cultures). Strong and healthy connectedness to his or her cultural group(s).

**VULNERABILITIES:**
- Lacks basic knowledge about his or her culture. Has inaccurate or discriminatory views of his/her culture or other cultures.Disconnected from the dominant culture and/or his/her culture of origin. Ashamed of his or her culture. Experiences put-downs, stigma, prejudice, or discrimination as a result of culture (e.g., racist comments). Feels alienated (e.g., feels he/she does not fit in to any cultural group).
START: AV
Culture Item

• **Example Interview Questions:**
  • Tell me about your cultural background. Which cultural group(s) do you identify with the most?
  • How involved are you in culture? What sort of events have you participated in? Do most of your friends have a similar background?
  • What is the first language you learned?
  • Are you proud of your culture?
  • Have you ever been discriminated against because of your race, ethnicity, or culture, etc.?
  • Are you interested in learning more about your culture? Are you interested in received cultural services such as . . .?
Current Project

• **Objectives**

  • To assess the internal consistency and item homogeneity of the START-AV with a Residential AI/AN sample
  • To evaluate the predictive validity of the START-AV
  • To compare the efficacy of START-AV with both male and female adolescents.
  • To evaluate construct validity by examining change in scores before treatment and after treatment
Procedure

• Participants
  • 30 AI/AN youth who were residents of the New Sunrise Regional Treatment Center between 2009-2013
  • Equal sample size of males and females \((N=15\text{ each})\)

• Design and Procedure
  • Retrospective chart review
  • Pseudo-Randomly selected 30 charts for inclusion
  • Coded baseline START using referral and admission information only
  • Coded follow up START and negative outcome variables at the end of treatment (or after 3 months)
## Sample Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>% (n)/M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>16.0 (1.15)</td>
</tr>
<tr>
<td>Type Of Admit: Court Ordered</td>
<td>60.0% (18)</td>
</tr>
<tr>
<td># Days In Treatment</td>
<td>85.6 (31.93)</td>
</tr>
<tr>
<td>Gender: Male</td>
<td>50.0% (15)</td>
</tr>
<tr>
<td>In School: Yes</td>
<td>53.3% (16)</td>
</tr>
<tr>
<td>Living With:</td>
<td>46.7 (14)</td>
</tr>
<tr>
<td>Parents</td>
<td>16.7 (5)</td>
</tr>
<tr>
<td>Relatives</td>
<td>3.3 (1)</td>
</tr>
<tr>
<td>Foster Care</td>
<td>23.3 (7)</td>
</tr>
<tr>
<td>Jail</td>
<td>3.3 (1)</td>
</tr>
<tr>
<td>Homeless</td>
<td>6.7 (2)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Previous Mental Health: Yes</td>
<td>89.7 (26)</td>
</tr>
<tr>
<td>Previous Substance Abuse: Yes</td>
<td>80.0 (24)</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>% (n)</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Dual Diagnosis: Yes</td>
<td>76.7 (23)</td>
</tr>
<tr>
<td>Cannabis Abuse</td>
<td>13.3 (4)</td>
</tr>
<tr>
<td>Cannabis Dependence</td>
<td>50.0 (15)</td>
</tr>
<tr>
<td>Alcohol Abuse</td>
<td>33.3 (10)</td>
</tr>
<tr>
<td>Alcohol Dependence</td>
<td>30.0 (9)</td>
</tr>
<tr>
<td>Cocaine Abuse</td>
<td>6.7 (2)</td>
</tr>
<tr>
<td>Drug Dependence</td>
<td>3.3 (1)</td>
</tr>
<tr>
<td>Polysubstance Dependence</td>
<td>23.3 (7)</td>
</tr>
<tr>
<td>Other Substance Abuse</td>
<td>3.3 (1)</td>
</tr>
<tr>
<td>Oppositional Defiant Disorder</td>
<td>30 (9)</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>23.3 (7)</td>
</tr>
<tr>
<td>Major Depressive Disorder W/Psychosis</td>
<td>6.7 (2)</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>6.7 (2)</td>
</tr>
<tr>
<td>ADHD</td>
<td>3.3 (1)</td>
</tr>
<tr>
<td>Adjustment Disorder</td>
<td>10.0 (3)</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>10.0 (3)</td>
</tr>
<tr>
<td>Reactive Attachment</td>
<td>6.7 (2)</td>
</tr>
<tr>
<td>Depressive Disorder NOS</td>
<td>10.0 (3)</td>
</tr>
<tr>
<td>Sexual Abuse of a Child</td>
<td>6.7 (2)</td>
</tr>
<tr>
<td>PTSD</td>
<td>3.3 (1)</td>
</tr>
</tbody>
</table>
Results: Base Rates

- Violence: 20.0%
- Verbal: 23.3%
- Bullying: 10.0%
- Property: 3.3%
- NSSI: 6.7%
- AWOL: 23.3%
- Health Neg: 10.0%
- Substance: 13.3%
- Did not complete: 23.3%
## Results

<table>
<thead>
<tr>
<th>Psychometric Property</th>
<th>Strength</th>
<th>Vulnerability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>40.75</td>
<td>56.23</td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td>6.69</td>
<td>9.18</td>
</tr>
<tr>
<td><strong>Range</strong></td>
<td>30-61</td>
<td>38-73</td>
</tr>
<tr>
<td><strong>MIC</strong></td>
<td>0.28</td>
<td>0.27</td>
</tr>
<tr>
<td><strong>Alpha</strong></td>
<td>0.91</td>
<td>0.92</td>
</tr>
<tr>
<td><strong>Baseline</strong></td>
<td>55.59</td>
<td>41.83</td>
</tr>
<tr>
<td><strong>Follow up</strong></td>
<td>8.05</td>
<td>9.91</td>
</tr>
<tr>
<td></td>
<td>36-69</td>
<td>31-63</td>
</tr>
</tbody>
</table>
Results: Gender

No significant difference between genders
## Results: Predictive

<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Strength Score AUC</th>
<th>Vulnerability Score AUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not complete Program</td>
<td>0.80</td>
<td>0.81</td>
</tr>
<tr>
<td>Treatment effective</td>
<td>0.69</td>
<td>0.93</td>
</tr>
<tr>
<td>Used Substances</td>
<td>0.32</td>
<td>0.28</td>
</tr>
<tr>
<td>Health Neglect</td>
<td>0.64</td>
<td>0.74</td>
</tr>
<tr>
<td>AWOL</td>
<td>0.67</td>
<td>0.66</td>
</tr>
<tr>
<td>Violence</td>
<td>0.67</td>
<td>0.78</td>
</tr>
<tr>
<td>Verbal</td>
<td>0.72</td>
<td>0.81</td>
</tr>
<tr>
<td>Bullying</td>
<td>0.70</td>
<td>0.80</td>
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<tr>
<td>NSSI</td>
<td>0.53</td>
<td>0.57</td>
</tr>
<tr>
<td>Property Damage</td>
<td>0.64</td>
<td>0.83</td>
</tr>
</tbody>
</table>

**AUC Values:**
- 0.55-0.63 = Fair
- 0.64-0.71 = Good
- 0.71-1.00 = Excellent
### Results: Predictive

<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Relevant SPJ AUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used Substances</td>
<td>Substance Abuse SPJ</td>
</tr>
<tr>
<td></td>
<td>0.52</td>
</tr>
<tr>
<td>Health Neglect</td>
<td>Health Neglect SPJ</td>
</tr>
<tr>
<td></td>
<td>0.59</td>
</tr>
<tr>
<td>AWOL</td>
<td>AWOL SPJ</td>
</tr>
<tr>
<td></td>
<td>0.57</td>
</tr>
<tr>
<td>Violence</td>
<td>Violence SPJ</td>
</tr>
<tr>
<td></td>
<td>0.72</td>
</tr>
<tr>
<td>Verbal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.73</td>
</tr>
<tr>
<td>Bullying</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.78</td>
</tr>
<tr>
<td>NSSI</td>
<td>NSSI SPJ</td>
</tr>
<tr>
<td></td>
<td>0.82</td>
</tr>
<tr>
<td>Property Damage</td>
<td>Non-Violent Offending</td>
</tr>
<tr>
<td></td>
<td>0.91</td>
</tr>
</tbody>
</table>

**AUC Values:**
- 0.55-0.63 = Fair
- 0.64-0.71 = Good
- 0.71-1.00 = Excellent
Results: Change in Scores

Note. *** \( p \leq 0.001 \) level (2-tailed).
Results:
Change in SPJ Rating

![Bar Chart showing changes in SPJ Rating for various categories like Violence, Non-Violent, Substance, AWOL, Suicide, NSSI, Victimization, and Health Neg.](chart)

At Admission | At Discharge
---|---
Violence | 1.65 | 1.38
Non-Violent | 2 | 1.42
Substance | 2.96 | 2.15
AWOL | 2.42 | 1.69
Suicide | 1.69 | 1.62
NSSI | 1.85 | 1.35
Victimization | 1.5 | 1.35
Health Neg | 1.77 | 1.5

Note: *** p ≤ 0.001 level  ** p ≤ 0.01 level  * p ≤ 0.05 level  † p ≤ 0.1 level (2-tailed).
Results: Change in Culture Item

- **Strength**
  - At Admission: 1.85
  - At Discharge: 2.27

- **Vulnerability**
  - At Admission: 1.35
  - At Discharge: 1.15

*Note.*** $p \leq 0.001$ level (2-tailed).
Discussion

• Support for use of START-AV
• Psychometric properties good
• Predictive validity
• Strength and ↑ vulnerabilities ↓
• SPJ risk judgments ↓
• Culture item ↑ strength
• Predicts treatment success & dropout
Limitations

• Small sample size

• Relatively Short follow up

• Low Base Rate of outcomes

• Ratings are from file only

• No interrater Reliability
Clinical Implications

• START-AV provides clinical practitioners with an evidence based tool
  • Can help to predict future adverse events
  • Can help to predict future success

• START-AV helps clinical practitioners with intervention and management planning
  • Identifying gaps in services, supports, and skills
  • Identifying avenues for fostering success
Clinical Implications

- START-AV can potentially help improve therapeutic alliance
  - Identifying client’s strengths & create shared goals for treatment
- START-AV is a good means of structuring clinical
- team discussions
- Can also help facilitate continuation of care
  - i.e. provide a common language
Contact Information

• Thank you for your attention!

• Further information contact simviljoen@gmail.com

• Interested in ordering START-AV? Contact startav@sfu.ca

• Interested in START-AV training? Contact authors startav@sfu.ca or for training opportunities in South West contact simviljoen@gmail.com